

CLAIMS

1. A method of whitening teeth comprising forming a dental tray to conform to teeth to be whitened, placing in said dental tray a substantially non-water soluble whitening formulation having a viscosity if about 50,000 cps to about 900,000 cps, applying said dental tray to the teeth to be whitened for a period of time.
2. A method as in claim 1 wherein said substantially non-water soluble whitening formulation has a viscosity of about 200,000 cps to about 600,000 cps.
3. A method as in claim 1 wherein said substantially non-water soluble whitening formulation has substantially the following formula:

| Component | Content |
|--------------------------|----------------|
| Hydrophobic Polymer | 1 to 80 wt % |
| Adhesive Enhancing Agent | 0 to 20 wt % |
| Peroxide Whitening Agent | 0.5 to 50 wt % |
| Surfactant | 0 to 50 wt % |
| Flavor | 0.1 to 1 wt % |
| Other Agents | 0 to 10 wt % |

4. A method as in claim 3 wherein said non-aqueous hydrophobic polymer has a concentration of about 15 to about 40 weight %.
5. A method as in claim 3 wherein said adhesive enhancing agent has a concentration of about 2 to about 15 weight %.
6. A method as in claim 3 wherein said peroxide whitening agent has a concentration of about 10 to about 40 weight %.
7. A method as in claim 3 wherein said surfactant has a concentration of about 15 to about 35 weight %.
8. A method as in claim 1 wherein said tray is comprised of one of a thermoplastic resin and a thermoset resin.

9. A method as in claim 8 wherein said thermoplastic resin is selected from the group consisting of polyethylene and polypropylene polymers, derivatives and copolymers, polyurethanes and derivatives, polycaprolactams, polystyrene and derivatives, polybutadiene and derivatives, polyisoprene and derivatives, and polymethacrylate and its derivatives
10. A method as in claim 1 wherein subsequent to a removal of said tray from the teeth said teeth are treated with a desensitizing formulation.
11. A method as in claim 10 wherein said desensitizing contains at least one of potassium nitrate, citric acid, citric acid salts and strontium chloride.
12. A method as in claim 3 wherein said hydrophobic polymer is the condensation product of a silicone resin and an organosiloxane.
13. A method as in claim 12 wherein said hydrophobic polymer is a condensation product comprised of about 50 to 70 parts silicone resin to 30 to 50 parts organosiloxane polymer.
14. A method as in claim 3 wherein said adhesive enhancing agent is selected from the group consisting of waxes, nonionic polymers of ethylene oxide and nonionic copolymers of ethylene oxide and propylene oxide.
15. A dental tray for treating teeth with a whitening formulation comprising a dental tray formed to substantially cover the front and a rear surface of at least one tooth, said dental tray containing a substantially non-water soluble whitening formulation having a viscosity of about 50,000 cps to about 900,000 cps.
16. A dental tray as in claim 12 wherein said substantially non-water soluble whitening formulation has a viscosity of about 200,000 cps to about 600,000 cps.

17. A dental tray as in claim 12 wherein said substantially non-water soluble whitening formulation has substantially the following formula:

| Component | Content |
|--------------------------|----------------|
| Hydrophilic Polymer | 1 to 80 wt % |
| Adhesive Enhancing Agent | 0 to 20 wt % |
| Peroxide Whitening Agent | 0.5 to 50 wt % |
| Surfactant | 0 to 50 wt % |
| Flavor | 0.1 to 1 wt % |
| Other Agents | 0 to 10 wt % |

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18. A dental tray as in claim 14 wherein said non-aqueous hydrophilic polymer has a concentration of about 15 to about 40 weight %.

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19. A dental tray as in claim 14 wherein said adhesive enhancing agent has a concentration of about 2 to 15 weight %.

20. A dental tray as in claim 14 wherein said peroxide whitening agent has a concentration of about 10 to 40 weight %.

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21. A dental tray as in claim 12 wherein said peroxide whitening agent has a concentration of about 15 to about 35 weight %.

22. A dental tray as in claim 19 wherein subsequent to a removal of said tray from the teeth a tooth densitizing composition is placed into said tray.

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23. A dental tray as in claim 15 wherein said non-aqueous hydrophobic polymer is the condensation product of a silicone resin and an organosiloxane.

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24. A dental tray as in claim 23 wherein hydrophobic polymer is a condensation product comprised of about 50 to 70 parts silicone resin to 30 to 50 parts organosiloxane polymer.

25. A dental tray as in claim 15 wherein said adhesive enhancing agent is selected from them group consisting of waxes, nonionic polymers of ethylene oxide and nonionic copolymers of ethylene oxide and propylene oxide